

Construction and Application of Thematic Database for Human-Earth System

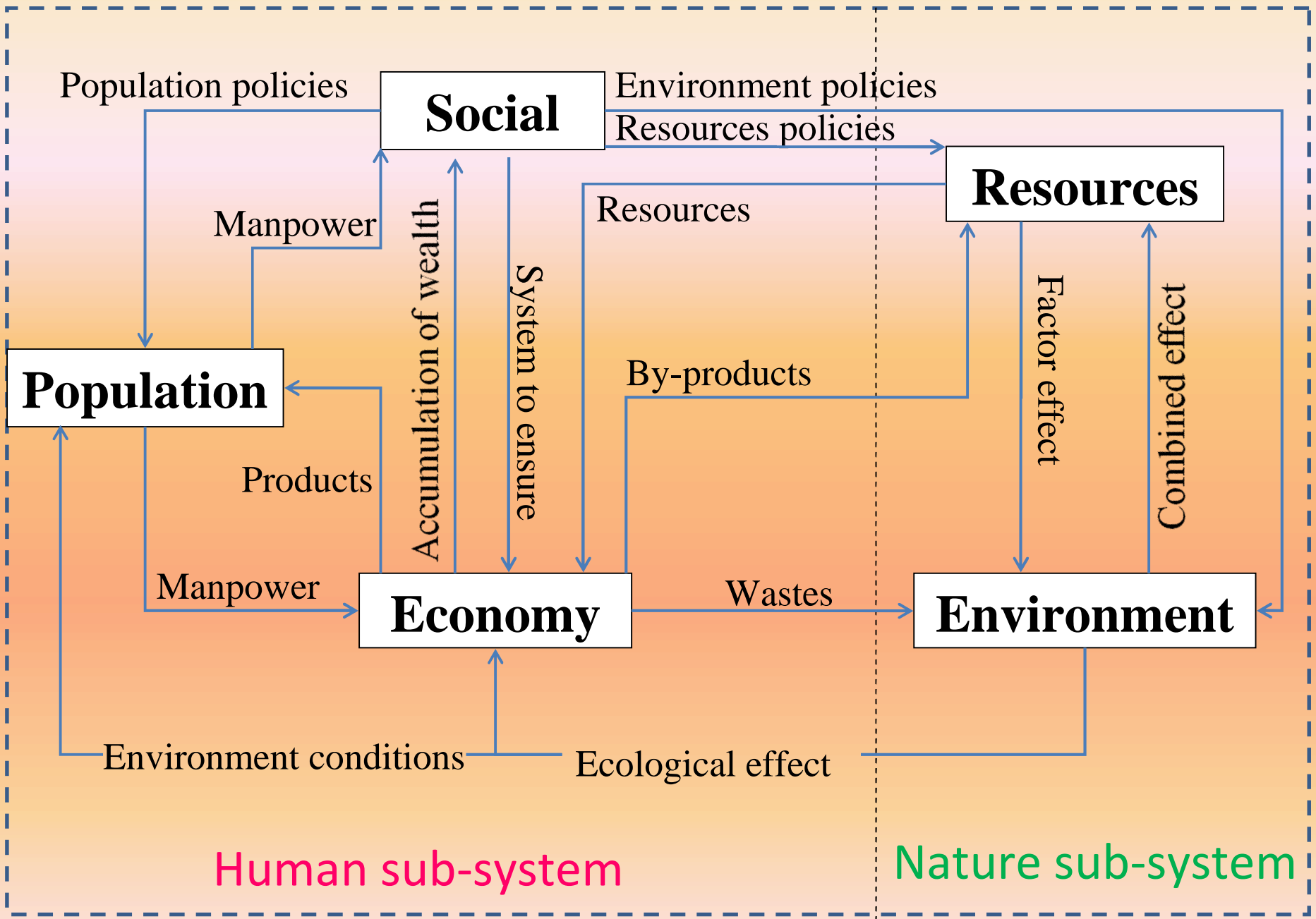
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Outline

- Introduction
- Data Infrastructure
- Platform for Data Sharing
- Rules and Regulations
- Service effectiveness



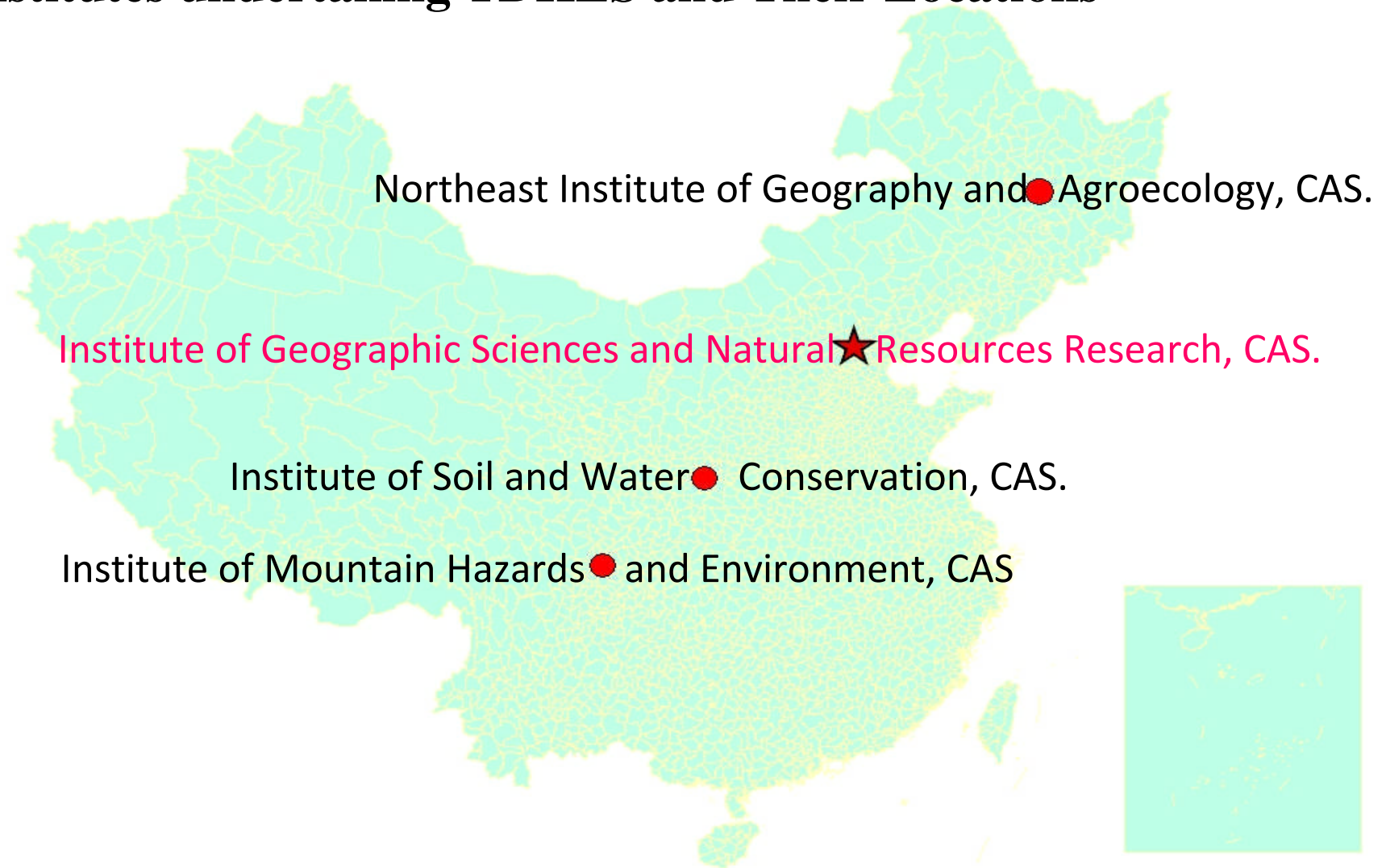
Components and their interaction of human-earth system

1 Introduction

- Thematic Database for Human-Earth System (TDHES) is one of the eight thematic databases in Scientific Database Program of Chinese Academy of Science (CAS) (2006 to 2010).
- TDHES is undertaken by Institute of Geographical Sciences and Natural Resources Research (IGSNRR) and constructed jointly by other three institutes of CAS.
- **The mission and objective** of TDHES is to provide data service for basic research of human-earth system, national economic construction and development strategy. It is an interdisciplinary database.

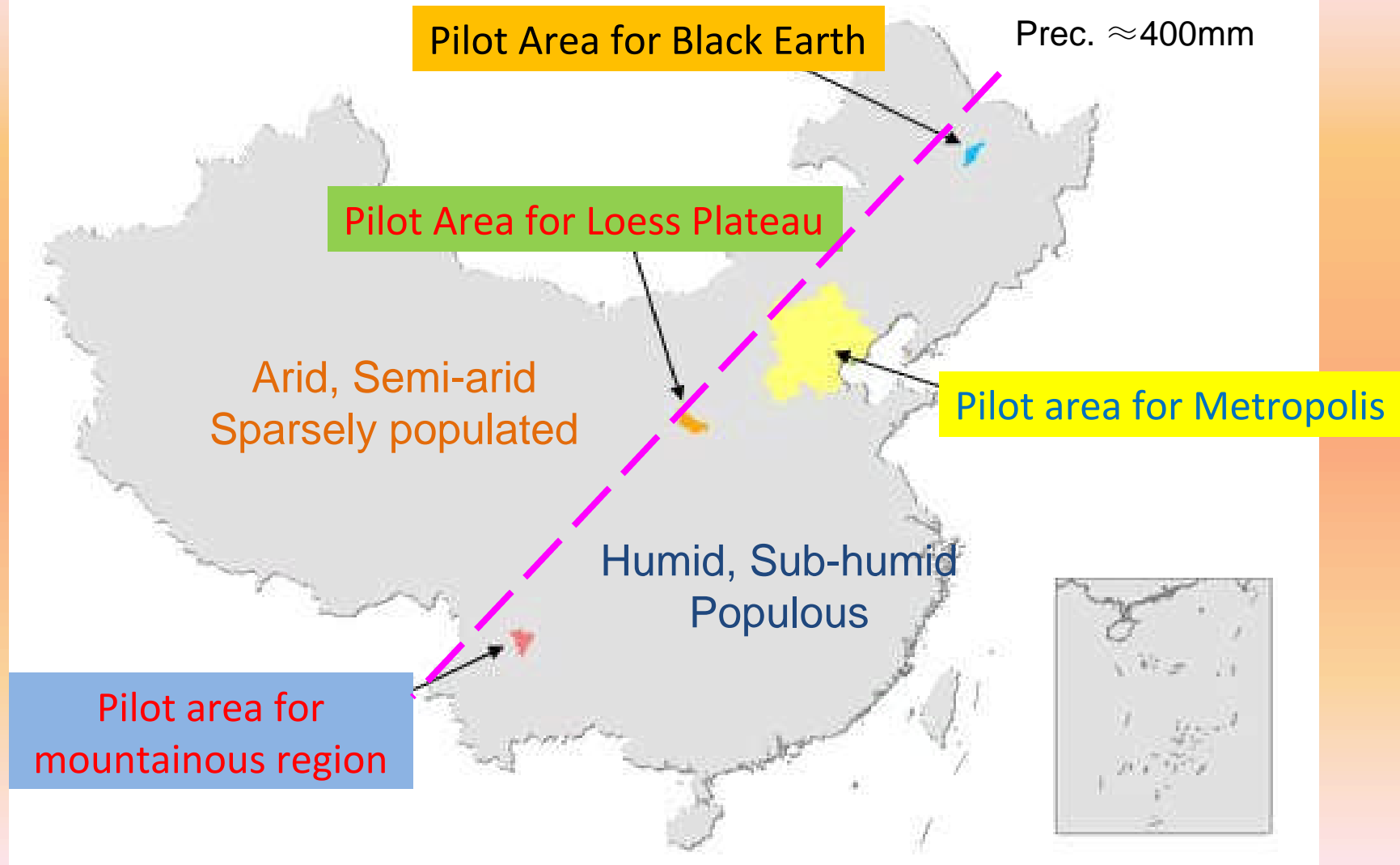
1 Introduction

Institutes undertaking TDHES and Their Locations



1 Introduction

Distribution of Pilot Areas for TDHES



2 Data Infrastructure

■ TDHES is composed of three scales of data: national, regional and global.

■ **Key regions in China** include Metropolitan district of Beijing-Tianjin-Hebei, Loess Plateau, Southwest Mountains and Northeast black soil zones.

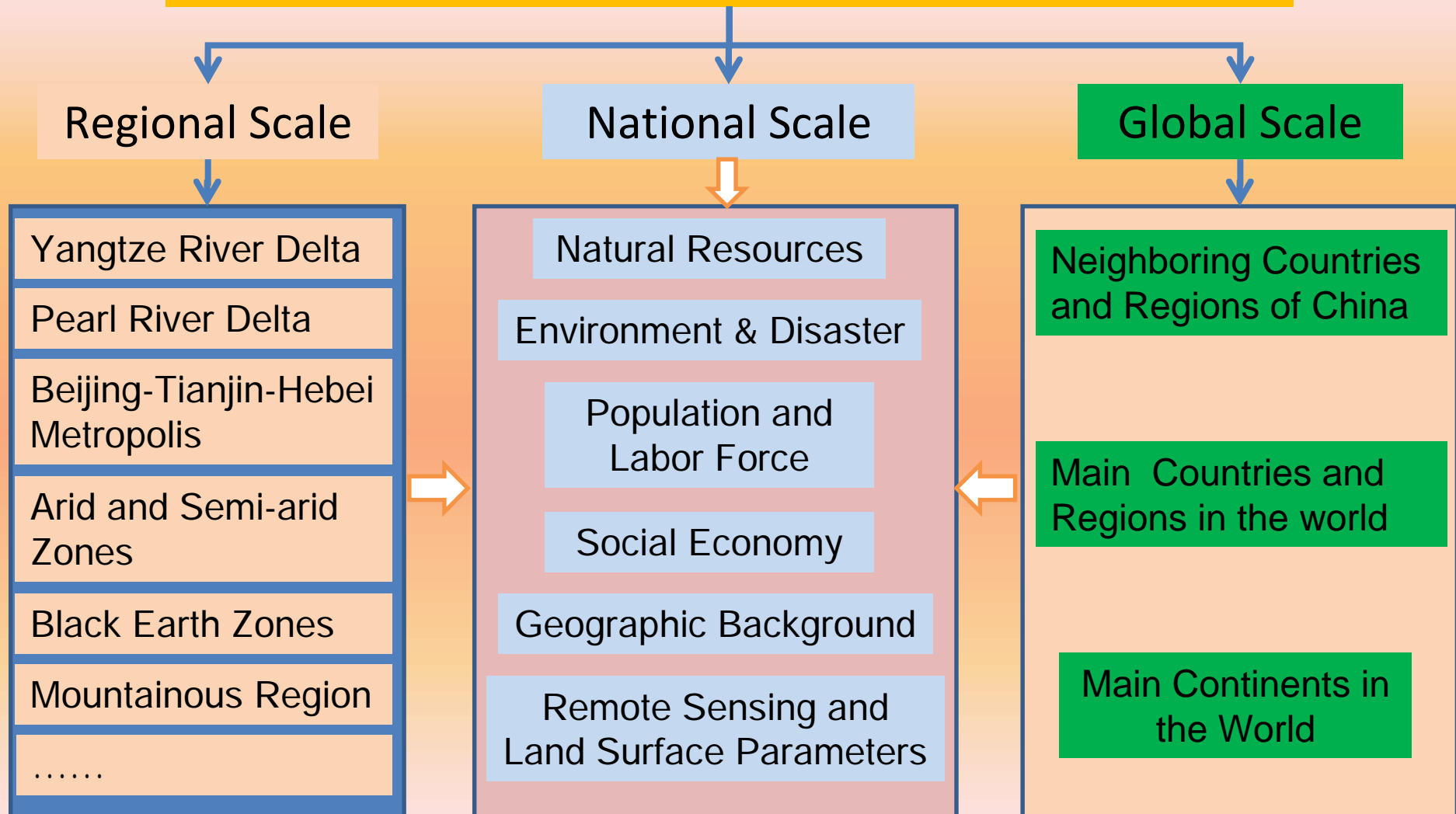
■ **Global data** cover neighbors of China, major countries and regions in the world and Continents.

■ Data contents include geographical background, population, natural resources, environment and socio-economic, remote sensing and land surface parameters.

■ They consist of 32 sub-database with volume of 7.6TB.

2 Data Infrastructure

Thematic Database of Human-earth System



List of sub-databases in TDHMS

Names of Sub-database		Scales	Targets
(1) Climate Res.	(2) Water Res.	National	<ul style="list-style-type: none"> ■ Coordination of human-earth relation and sustainable development at national level ■ Coordination and balance among regions
(3) Energy Res.	(4) Biology Res.		
(5) Land Res.	(6) Overall Economy		
(7) Sector Economy	(8) Natural Disaster		
(9) Waste Discharge	(10) Population and manpower		
(11) Geographic Ground	(12) Remotely Sensed Data		
(13) Soil Erosion	(14) Landslide and Debris flow		
(15) Soil Fertility	(16) Natural Areas		
(17) Natural Zoning			
(18) Beijing-Tianjin-Hebei Metropolis		Regional	<ul style="list-style-type: none"> ■ Coordination and sustainable development inside regions
(19) Loess Plateau			
(20) Southwest Mountain			
(21) Northeast Black Earth			
(22) Basic Situation of Neighbor Countries		Global	<ul style="list-style-type: none"> ■ Resources security ■ National strategy
(23) Geographic Background of Neighbor Countries			
(24) Energy of Neighbor Countries			
(25) Basic Situation of Central Asia			
(26) Energy and Mineral of Central Asia			
(27) Water Resource of Central Asia			
(28) Natural Resources of Siberia and Far East			
(29) Basic Situation of South America			
(30) Geographic Background of South America			
(31) Basic Situation of West Asia			
(32) Geographic Background of West Asia			

3 Platform for Data Sharing

Internet based service platform of TDHES can provide:

- online browsing or downloading of data;
- interactive query between spatial data and attribute data;
- online analysis of human-earth relationship and regional sustainable development;
- integration of models for human-earth system.

3 Platform for Data Sharing

Data query/download

中国科学院地理科学与资源研究所
人地系统主题数据库 (原中国自然资源数据库) Scientific Database

分类查询 | 分类浏览 | 选择查询 | 选择浏览 | 关键字查询 | 分省数据查询 | 分县数据查询 | 变量数据查询 | 查目录
资源图集 | 统计图集 | 经济图集 | 航片目录 | 自动生成图 | 数值数据下载 | 遥感数据下载 | 栅格数据下载 | 请留言

联系我们 免费 注册 用户名: 密码: 登录 有关水内容库 搜索 | english | 新站入口

图形数据库
数据在线可视化分析
中国自然资源图集
中国自然资源统计图
经济与人口统计图集

自然资源数据库
中国水资源数据库
中国土地资源数据库
中国气候资源数据库
中国森林资源数据库
中国草场资源数据库
中国野生动植物资源数据库
中国能源资源数据库
中国农村能源资源数据库
中国旅游资源数据库
中国渔业资源数据库

社会经济数据库
中国综合数据库
中国财政数据库

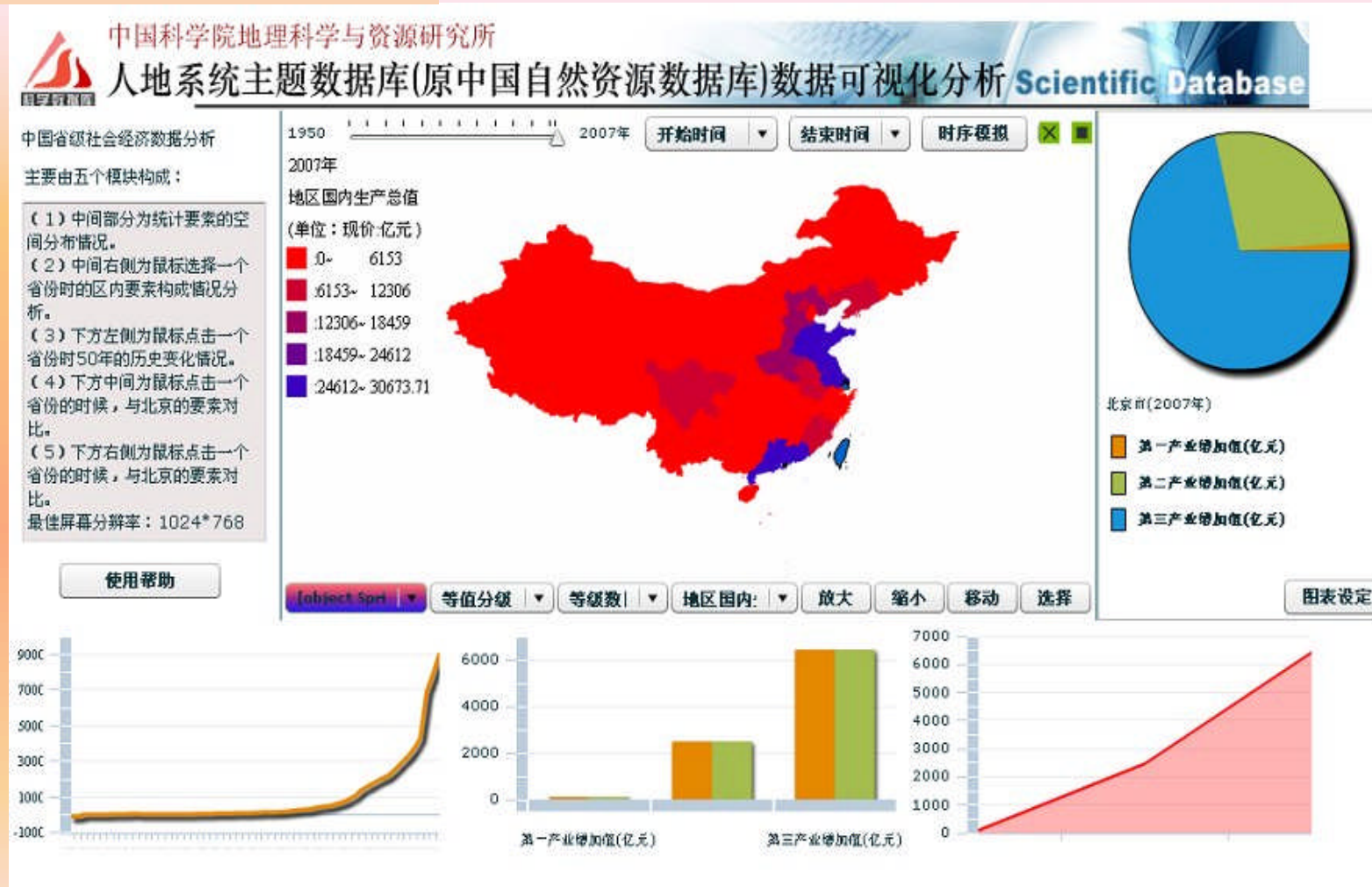
数据库介绍
人地系统主题数据库 是面向人地系统基础研究、国家经济建设和国家
战略需求,以人口、资源、环境和发展(PRED)为核心的数据库服务系统。它由
中科院信息化专项提供支持、中科院地理科学与资源研究所承建。人地系统主题
数据库是在完善原中国自然资源数据库的基础上,通过整合东北黑土区、黄土高
原、西南山地等人地关系典型区域以及中国周边与全球主要国家(地区)的人地
系统数据形成。数据库的内容涉及自然资源、环境、人口、社会经济、生态等多
个方面,主要为地球科学基础研究、区域可持续发展、政府管理决策以及社会公
众提供数据服务。人地系统主题数据库由32个子库构成,目前的数据量总量超过
6TB。其中,属性数据库包含400多个关系表,8000多个数据项,约1000万个数
据;矢量数据库包括不同比例尺的地理背景要素和专题要素;栅格数据产品包括
1平方公里分辨率的气温、降水、日照时数、相对湿度、NDVI等生态环境背景数
据和人口、GDP等人文数据。到“十一五”末,主题库的数据总量将达到7.6TB。

1) 中国水资源数据库
全国各省区水资源(总量、地表水、地下水等)数量,1995-2004;水资源
开发利用(需水、供水、用水等)现状(1995年-2004年)和规划数据
(1980s)等及部分水文数据。另有反映重点地区水资源状况的遥感数据

you can query data in various ways including categories, keywords and data formats, and download data you want.

3 Platform for Data Sharing

Data visualization



you can carry out data visualization by thematic map and statistical figure to see temporal and spatial variation of data more directly.

3 Platform for Data Sharing

Online Analysis



You can online configure models and extract data from the database to evaluate sustainability of regions in China.

4 Rules and Regulations

The following **rules and regulations** has been drawn up to construct TDHES.

- Data Classification and Coding Standard
- Data Quality Management Standard
- Metadata Standard
- Specification for Data archives
- Technical Specification for Data Integration
- Technical Specifications for Service Platform Development
- Service Regulation for Data Sharing

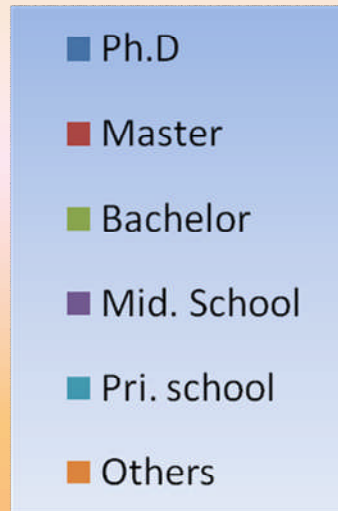
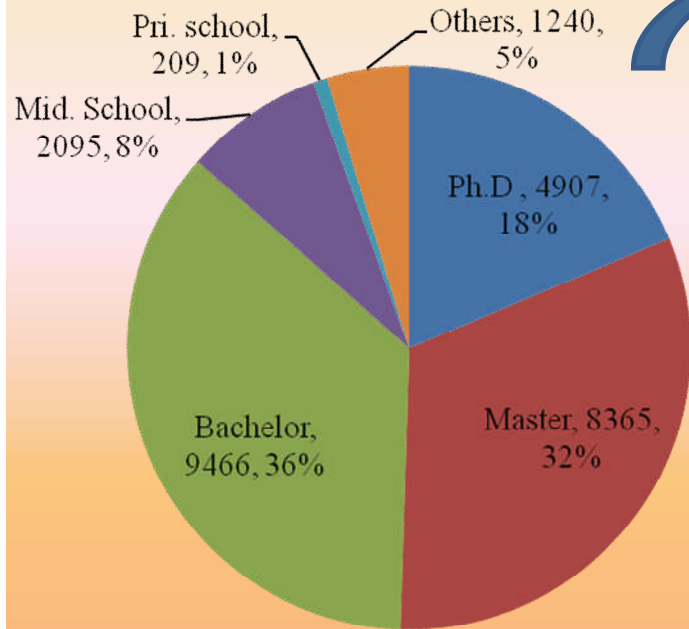
4 Rules and Regulations

Some documents of rules and regulations



5 Service Effectiveness

- Registered users of TDHES amount to **26,283** until 14 Oct. of 2010.
- The web site has been visited **1,690,911** times.
- **1052 off-line** data services were provided.
- TDHES has been providing data service for research on human-earth system, government decision-making and regional sustainable development in China.



■ Distribution of registered users by **level of education**

Most (86%) of the users received **higher education**

■ Distribution of registered users by **profession**

Most (78%) of the users came from **universities and institutes**

